RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:	10/534210
Source:	IFWP,
Date Processed by STIC:	8/14/06
	/

ENTERED



IFWP

RAW SEQUENCE LISTING DATE: 08/14/2006
PATENT APPLICATION: US/10/534,210 TIME: 12:30:10

```
3 <110> APPLICANT: Brana, Alfredo F
              Leadlay, Peter F
      4
              Martin, Christine J
              Mendez, Carmen
              Moss, Steven
              Olano, Carlos
              Oliynyk, Marko
              Salas, Jose A.
     10
              Sanchez, Cesar
     11
              Wilkinson, Barrie
     14 <120> TITLE OF INVENTION: BORRELIDIN PRODUCING POLYKETIDE SYNTHASE AND ITS
USES
     16 <130> FILE REFERENCE: 4408-P03626US00
     18 <140> CURRENT APPLICATION NUMBER: US 10/534,210
     19 <141> CURRENT FILING DATE: 2005-05-06
     21 <150> PRIOR APPLICATION NUMBER: PCT/GB03/005704
     22 <151> PRIOR FILING DATE: 2003-12-24
     24 <150> PRIOR APPLICATION NUMBER: GB0230217.2
     25 <151> PRIOR FILING DATE: 2002-12-27
     27 <160> NUMBER OF SEQ ID NOS: 113
     30 <210> SEQ ID NO: 1
     31 <211> LENGTH: 74787
     32 <212> TYPE: DNA
     33 <213> ORGANISM: Streptomyces parvulus Tu4055
     35 <400> SEQUENCE: 1
     36 gatcccgcgc ggcatcgccg tcgacgtgct gcgggccggc gaccgctggc cccacagcgc
                                                                               60
     38 ggcaccgcgc caccggggac tcctcaacgc ctggtggggc gcctgggtct gggccacggt
                                                                              120
     40 cttcgaccgc tacgcgtcga ggacctacga cgacgcccag gacgtcgacg cgatccacga
                                                                              180
     42 cgcggcggga ctggtcatgg ccggtgccgg attcgacatc ctcgccgccg tgctcgcgat
                                                                              240
     44 cctcttcgtg cgccggctga ccgccgcaca gcacgcgaag gccctcgcgg ggcccacccc
                                                                              300
     46 gccgacgcac tgagccgccc gcacccgtga tcccgccccg cgatccccgg gcccgataaa
                                                                              360
     48 tgcgttggcc ccggcgcgc cctgtggtgg gatgagcggc gacgggggcg gctccccggc
                                                                              420
     50 gtgcatcctt ctcaccttcc tgcaaagatc ccgcgcgccc actctccgcc cccgttcttc
                                                                              480
     52 cgtcccgagc cgtcgccgcc gtggaggctt tcctgttgct cgccgccgag tccgtactgc
                                                                              540
     54 tgcgccgtga ccagagcgtc tacgtgaccc cggggtccga gccggacggt ccgccgaggg
                                                                              600
     56 ccgcactgcg ccggctcgag gccgaactgc tcggccgcgg ccacgccgtc tccgcgccgc
                                                                              660
     58 tgcacgcggt cctcgcctcc ttggactccg aggaactggc ggccgcccac gtacgcctcg
                                                                              720
     60 teggaetegt egaegaeetg eteggeteeg acegeaeeca eacecegete tteegeeget
                                                                              780
     62 tecegegeae egtgeegege gaeaeegagg egetgtaegt ggaeegegte ttegeettee
                                                                              840
     64 tgctgcagca gcccgagcag ccctgcgtgc tgtgcggcga ggcgcgcacc gtcctgcccg
                                                                              900
     66 tgtcaccctg cgcgcacctg gtctgccggc tgtgctggga cggctccgac tacgcgggat
                                                                              960
     68 gcccgctgtg ccaccgcagg atcgacgggg acgacccctt cctgcgtccg gtccgtgccg
                                                                             1020
     70 teggegeege cagggegace gtacegggee egetgegact getgegeetg ggeacegaca
                                                                             1080
     72 tgaccgccga cgccaccacg gcggtggacg ccctgctggc ccgccgcacc ccgctctccc
                                                                             1140
```

RAW SEQUENCE LISTING PATENT APPLICATION: US/10/534,210 DATE: 08/14/2006 TIME: 12:30:10

					accggccggc		1200
76	tgccgcagga	catcccggtc	cgcgagacca	aggcgctggt	cctgggcgcg	ctggtgcgcc	1260
78	gggcaccgtc	gcggccggcc	ctgcggaggc	tgctcgccga	gcggctcacc	accgccaccg	1320
					cgggctggtg		1380
					cgccgtcctc		1440
					ggcgtggaag		1500
					cgccgcgctc		1560
					cgccgccctg		1620
					agtccgcccg		1680
					tcgggccgcg	——————————————————————————————————————	1740
					gctgcgcctg	-	1800
					gctgccgaag		1860
					cgaggaccgc		1920
100	ggcgcgtgtt	cttcccgcgg	g ggcgacgtca	cccgggccct	gtccgtcccc	gagcggcgcc	1980
					gctggaggg		2040
104	gccggttcgc	cgccgggcgg	g ccctacgago	tgtcggtgct	ggacgccgga	ctgaccgacc	2100
106	tcaccgtgcc	gttcaccgag	g cggaccgccg	ccaaggccct	ggtgaccgtg	ggccgcggca	2160
108	gcgtccaggc	actccccgag	ggctccgtgc	tccgactgtt	cctgcactgg	acggaacccc	2220
110	ggggcaaccg	caccgacctg	gacctgtccg	tegeettett	cgacgccgag	tggacgttca	2280
112	ccggcctgtg	cgactacaco	, aacctggtgc	acggtccgga	cgcggcgatc	cactccggcg	2340
					cgtggacctc		2400
116	ggctggcgcg	gcggggagac	acctacgccg	tcccgctggt	gttcagctac	aacaacgtcc	2460
118	cgttcgagga	actgccggad	gccttcgccg	ggttcatggo	gctgcccgcg	gaaggcccgc	2520
120	gcgacgcgac	ctacgacccg	g cgcaccgtgc	ggcagcgctt	cgacctcgcg	ggcgactcca	2580
122	aggtgtgcct	gccgatgatc	gtggacctgg	cccgccggcg	ggcgttgtgg	accgacaccc	2640
					cggcggcggt		2700
126	cggtggccgg	tgacctctgg	, cagcagttca	cctcgggcgg	ccgggcgacc	ctgtgggacc	2760
128	tcgccgtcct	gcgggcggc	gccctctcgc	cggaggtggc	ggtggtgtcc	cgggagccgg	2820
130	agcccgcggt	gctgcgttac	cggcggcggg	cggccgagag	cgaggccgcg	ttcgccgtcc	2880
					caccgacccc		2940
					ggtccacggt		3000
					ggccggggac		3060
					gggctgagcc		3120
					gggctcgccg		3180
					cggaagccgg		3240
					ggccggtgct		3300
					ggatgcgcgg		3360
					agcacgtcgg		3420
					acctccggag		3480
					atgccgtggg		3540
					tcgtcaccgc		3600
					agctccgggt		3660
					cggcgtgagt		3720
					cgcgccggcg		3780
					cggggaatcg		3840
					ctacccgatg		3900
					gccgtccggg		3960
					gggcgacagc		4020
					cgacagcgcg		4080
			2 2		- J J J	J JJ JJ	-

RAW SEQUENCE LISTING

DATE: 08/14/2006 PATENT APPLICATION: US/10/534,210 TIME: 12:30:10

172	tggcgttgtg	cccggagtcg	agcagcgcct	tggcgatqtc	qaaacqqatc	agctccacqt	4140
		cgtgacgtcc					4200
		cgccgccaac					4260
		ctgccgcagc					4320
		gccgccggcc					4380
		cccgtggtcc		-			4440
		cgtgtaggtc					4500
		gcggcgggcc					4560
		acccgcggca					4620
		cgccagcgcc					4680
		accgccgacg					4740
		gaccagcagg					4800
		gtaccgggcc					4860
		catcttcatg					. 4920
		ctctccgcgg					4980
		ccggcggcgc					5040
		gagcgtgtgt			-		5100
	_	ggaaggacag					5160
	_	tggggcccgc				–	5220
		gactgggaca					5280
		cggcgcggcc				-	5340
		gccgacgtcg					5400
		tcgaccggcg					5460
		aaggccgtgc					5520
		ggcaccccga					5580
		ttctacatcg					5640
		tcccagggcc					5700
		tacgagtgca					5760
228	ggccatcgac	gtgccggtgc	tggtcgcgca	cggcaccgac	gaccaggtcg	tgccctacgc	5820
230	ggactcggcg	ccgctgtcgg	tgaagctcct	gaagaacggc	accctcaagt	cgtacgaagg	5880
232	gctcccgcac	ggcatgctct	ccacccaccc	cgaggtggtc	aaccccgacc	tcctggactt	5940
234	cgtgaggtcc	tagtcggcgc	tcacgccggc	gacacgggag	cgggtgcggc	gccgcgcacc	6000
236	gggtgcttgc	tcaggacgga	gacccggttg	aaggcgttga	tgctgatcgc	cacccagatc	6060
238	acggcggaga	cctcgtcgtc	cgacaggacg	ccccgtgcct	gcgcgtaggc	ggcgctctgc	6120
240	gcggcggcgt	ccgccggacg	ggtggtcgcc	tccgcgaggg	cgagcgccgc	ccgctcccga	6180
		gctcggtgtc					6240
•		gcgccgccct					6300
		tgttcaccag					6360
248	tcccgcaccg	attccgccgc	ggccacgaac	gctttgtacg	cgccgggggt	ctgcttgtcg	6420
		gccgctcgtc					6480
		ttccggcggg-					6540
		cggacggggg					6600
		cctcgaagac					6660
		cggcggcccg					6720
		cggagcctgg					6780
		ggacgtcgcc					6840
		gatcgagcac					6900
		gatgaccggc					6960
268	ccactgtcct	gcacggcgtc	cagctctggg	tggcgctgcc	ggaggagcac	cgcgacaccg	7020

RAW SEQUENCE LISTING PATENT APPLICATION: US/10/534,210 DATE: 08/14/2006 TIME: 12:30:10

		ccagcaccac					7080
		ctcgctcgcc					7140
274	gcgccgagtt	gacgctggtg	ccgggcggca	ccgccaccct	ggacgtcgac	cccggcttcg	7200
		cctcgtcgac					7260
278	ccgaactggg	ctacgtcgcg	ccgggtcgcg	cgacgctgac	cctgaccaac	gagtcggccg	7320
280	cacccgcccg	gctcatcctc	ctcggcggcc	ccccgttccc	cgaggagatc	atcatgtggt	7380
282	ggaacttcat	cggccggtcg	cacgacgaga	tcgtgcgggc	ccgcgaggac	tggatgaagg	7440
284	gcgaccgctt	cggcgaggtg	cacggctacg	acggggcacc	cctgcccgcg	ccggaactgc	7500
286	cgaacgcacc	cttgaagccg	cgacgaaggg	cgcgctgatc	tgcggggaca	tgggttggca	7560
288	ccaagggttt	cggcgctgct	cgatcaccga	acccaccgcg	agtcactctc	gggtgagtcc	7620
290	cgaacggtcg	ccgggagcgc	gtgagcacgt	gcgcagatgc	tcggcgatga	tgccgagaat	7680
292	cgcatcccgg	tgctccagca	ggtagaagtg	accacccgcg	aaggtgtcga	gtgtgaacgg	7740
294	gccgtccgtg	tgttcggacc	atgcccgggc	ctcgaccggg	gtgaccatcg	ggtcatcatc	7800
296	cccggtcaag	gcatggatgg	ggcaccgcag	cttcgggccc	ggtcggtagc	ggtaggtctc	7860
298	ggcggccctg	tagtcgccgc	ggatggcggg	gagggccata	cgcaccagct	cctcgtcgtg	7920
300	gaagacctgc	tccgcggtgc	cgtcgagggt	cctcagctcg	gccaccaact	cctcgtccga	7980
302	caggaggtgc	accgtacccc	ccgtcctctg	ccgggacggt	gcgggcctgg	ccgagacgag	8040
304	gagtgcctcc	agggagatgc	ccgcactctc	gaaccgtcgg	gccagttcga	aggcgagggt	8100
306	ggcgcccatg	ctgtgtccga	acagcgcgac	cggctggtga	acacgggccc	gcagcacggg	8160
308	gaagagctgg	ttcgcgagtt	cgtcgatgtc	ctccaggggc	ttctccgcgc	gccggtcctg	8220
310	ccggccgggg	tactggaccg	cgagcacgtc	gcaccggggt	gccagcgcgg	cagccacggg	8280
312	gtggtagaac	gtcgcggagc	cgccggcgtg	cggcagacag	atcaactggg	gtgccgtggg	8340
314	atgtgcgggg	cggtactgcc	tgatccacac	gtcgctgtgg	gtgttcgtac	cggtcatcag	8400
316	cggtgctgcc	cttccggcgt	ggcgttggtg	cgggggatgg	ccgatccggc	cgtgacgcct	8460
318	ccgtcgaccc	cgagggtctg	cccggtgacg	taggcggcga	gggggctgag	cagccagacg	8520
		ccacctcctc					8580
		cgctgggatc					8640
		cgttgacgcg					8700
		ccgcgtgctt					8760
328	ccggccactg	atgcgcagtt	cacgatcgcg	ccgccgccgg	ccgtcagcat	ggcctcgatc	8820
		tgcacgacca					8880
		cctggtgcag					8940
		gtccgaaccg					9000
		cgcagggcac					9060
		actcggtgcg					9120
		cccggccgat					9180
		tcatcgttgt				-	9240
		tgcagtccgc					9300
		agatggcaga					9360
		ctgacgcggt					9420
350	gatgcgctcg	gtgccgatga	cgccgtgggc	gaccgcgttg	accgtcacgc	cgtgcggggc	9480
352	cagttcgtag	gcgcactgct	tggtgaaccc	gatgacgccg	gccttggcgg	cgacgtaggc	9540
354	ggcattgctg	aaccgggtgt	acgtgcgacc	ggccacggac	gccaggttga	cgaccctgcc	9600
		gcgaccatcg					9660
358	gttgtgcgtg	acggcctcct	ggaggtcggc	ctcggtcagt	tcggtcaccg	agcgggcccg	9720
		ccgacgccgt					9780
		gccagggcgt					9840
		agcccgtccg					9900
366	cacccgcagg	ccccgggccg	ccaggcctcg	ggcgacctcc	gcgcagatgc	cgctgcccgc	9960

RAW SEQUENCE LISTING

DATE: 08/14/2006 PATENT APPLICATION: US/10/534,210 TIME: 12:30:10

368	tccggtcacc	agagccacgt	cgtgtcgtgc	cgtcatgtgt	tecteegeea	gccgccqccq	10020
			ccgggtgtgt				10080
			ttcgacccgg		-		10140
			ccactcgtcg				10200
			gcgcccggcc		-		10260
			gccgagctcg				10320
			cagccgtacg				10380
			tccggtacag				10440
			ctcgggccag				10500
			cgcgaccttc				10560
			gtcggcgggg				10620
			caccttgatc				10680
			ggtcgcgacg			_	10740
			tgatcgggca				10800
396	agcggccggg	cgaaatgccg	gcacaccgcg	tcgagcaggg	cgatctccac	ggcggccgcc	10860
			cccggtcagc		-		10920
			gcgctcggcc				10980
			ctcaccggtg				11040
			gatctcgacc				11100
			ggccatgggc		-		11160
			cgcgtggcca				11220
			tccgtggcga				11280
412	gccgcagcat	cgctcgcgcg	gccgacaggt	cgatgatcgg	gtcgtgagtg	gggagcgcca	11340
414	ggtcgacggg	gagccgggtg	cggggggcac	cgcgggcata	gtggtcctcc	aggtgcacga	11400
416	gcgtcgcctg	cgtggccgag	gtgacctcgc	gcagcatcag	gtgatccccg	gtgaggaact	11460
418	cccggtagcg	cggcaggtcg	gtgtagtcgc	cgtcggcgag	cccacgggc	cgtagcccgc	11520
420	tgccggtgag	cgcgcggcgc	tcggcgagcg	tgtccgcggt	gtggcgcgcc	cgctgctgtc	11580
422	ccagcgcggg	cgcgcacagg	accaacctgc	ggacgggcag	atcgcgggtg	caccagagcg	11640
424	cggccagcac	gctgccgccg	aggctctgcc	ccagggcgac	cggcccggca	ccgccgacct	11700
			gcgcgggcgt				11760
			ctgcggcccg				11820
430	tgccgcgtgc	gttgagctcg	ggccccgtct	cgaacagcca	gcccgcgtgg	ctctggatgc	11880
			gaggtggcgc				11940
			agcatgctcg			 -	12000
			ccagccggac				12060
			cgagttcttc				12120
			cgaggtcggg		=		12180
			agtgctcggc			-	12240
			gtaccgccgt				12300
			ccacgggccg				12360
			tcgagccgaa				12420
			agacacccac				12480
			ggtccagccg				12540
			cgtcgtcctg				12600
			tggccgcggt				12660
			catccccggc				12720
			ccacgtgcac				12780
			ggctcgcccc				12840
464	gaccgtgctc	gccacgctgt	gcgcgagcga	gccgaagatg	ccgacgtcgc	gggggtgacc	12900

VERIFICATION SUMMARY

DATE: 08/14/2006

PATENT APPLICATION: US/10/534,210

TIME: 12:30:11

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF4\08142006\J534210.raw